

Grass and Clover

Recommended List Varieties for Ireland 2012



Department of
**Agriculture,
Food and the Marine**

An Roinn
**Talmhaíochta,
Bia agus Mara**

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Notice to Publishers

The variety data presented may not be published unless the source is clearly acknowledged as the 'Grass and Clover Recommended List Varieties for Ireland 2012' publication produced by Department of Agriculture, Food and the Marine.

Introduction

Perennial ryegrass, Italian ryegrass and White clover account for nearly all of the agricultural grass/clover seed sold in Ireland. Of these, perennial ryegrass is by far the most important. Other species of grass and clover are not commonly used. Individual varieties differ in performance characteristics depending on maturity group and ploidy. These differences may be further exaggerated by factors such as climate, soil type and system of farming. Increased demands on grassland with regard to early spring grass, mid-season production, extended grazing in the autumn etc., mean that care needs to be taken in the selection of suitable grass seed mixtures. All grass and clover varieties listed in this booklet have a proven record of performance over a period of years at a number of different locations, and are deemed most suitable for Irish conditions.

Growers should give preference to the Recommended List varieties unless there is strong evidence that some other variety is more suited to their conditions.

Variety Maturity Groupings

Perennial Ryegrass: - Approximately 95% of forage grass seed sold in Ireland. Perennial ryegrass is grouped into three maturity groups (**early**, **intermediate** and **late**), on the basis of heading date (ear emergence).

Early varieties: - Head in the first half of May. Early perennials provide very good yields of early spring grazing and first cut silage. Stemmy regrowths in early summer can be a problem where long periods of uninterrupted growth are allowed to occur without grazing or cutting. In recent years, use of this group has declined in Ireland and sales are at a very low level.

Intermediate varieties: - Head in the second half of May and are ideal for producing high quality silage cuts in late May and mid-July. Although not bulking up as soon as early perennial varieties, overall silage yields are as good. Varieties from this group are suited to a broad range of management systems, and should be included in any seed mixture. Generally their spring growth is not as good as for early perennials, but persistency is better.

Late varieties: - Head in the first half of June, and tend towards a prostrate growth habit. They are characterised by high tiller densities, exhibit good ground cover, and are well suited to long term grazing pastures. Late varieties produce good quality silage cuts in early June and late July, and are leafy in mid summer. Generally their spring growth is not as good as for 'Intermediates'. Under good grazing

management, late perennials are extremely persistent and can survive very well for many years.

Italian ryegrass: - Are best suited to short-term leys of 2-3 years duration. They have early spring growth, but can be difficult to manage in mid-season because of stemmy regrowth. Italian varieties are suitable for intensive silage production and can also provide useful grazing in the spring and late autumn period. They tend to have low sward densities and are susceptible to poaching under adverse conditions.

Hybrid ryegrass: - These varieties represent the product of a cross between Italian and Perennial ryegrass types. In appearance they generally reflect one or other parental type. The Hybrid ryegrass varieties tend to yield higher than the Intermediate and Late groups of Perennial ryegrass, but lower than the Italians. Hybrids tend to be more stemmy in summer than the Intermediates and Lates, but less stemmy than the Italians.

White clovers: - Are included as a component in most grass seed mixtures for their nutritive value and their nitrogen fixing abilities. They are classified according to leaf size into very large, large, medium and small leaved types. Very large and large leaved varieties are relatively tolerant to nitrogen fertiliser usage and compete well with companion grasses, making them suitable for silage production. Medium leaved varieties are more suited to grazing, but can also be used in silage mixes. Small leaved varieties are suitable only for grazing.

Ploidy

Recently **diploid** varieties have tended to dominate mixtures in Ireland, but **tetraploid** varieties are an important component of grass seed mixtures. Compared to diploids they have higher quality and are more palatable to livestock (higher intake), and are more tolerant to drought. However, they tend to have lower tiller densities resulting in more open swards. Dry matter content also tends to be lower compared with diploids. On heavy soils subject to poaching, persistence may also suffer. Seeding rates for tetraploid grasses will need to be higher because of their larger seed size. In this publication, (T) denotes tetraploid varieties, all other varieties being diploid.

<p>IMPORTANT NOTICE: - The Department of Agriculture, Food and the Marine (DAFM) has taken all due care in evaluating the performance in Ireland of the listed varieties, for yield, heading date, ground cover and other agronomic characters (for a minimum period of 3 years) over a range of locations, soils and environmental conditions. DAFM cannot, however accept responsibility for any loss or inconvenience arising from any future variation in absolute or relative varietal performance.</p>

Protocol for Recommended List

Trials and trial sites

Varieties are evaluated over a minimum of two separate sowings, with each sowing being harvested for two years after the sowing year. Trials are conducted at Backweston Farm, Leixlip, Co. Kildare (Headquarters); Fermoy, Co Cork; Raphoe, Co Donegal; Athenry, Co Galway, and Piltown, Co Kilkenny. All new varieties are assessed against control varieties within their own maturity groups. Trials are grown on very good quality mineral soils in a manner conducive to selection of varieties most suited to good commercial farming practices.

Grasses

Perennial ryegrasses (Early, Intermediate and Late heading groups), Italian ryegrasses and Hybrid ryegrasses trials are sown in May/August and establish during for the remainder of that year. They are then assessed over the following two-year period under a 6 cut system using a trial-plot harvesting machine. The harvesting regime comprises one spring grazing cut, followed by two silage cuts and then three grazing cuts.

White clover varieties are sown in a mixture with an intermediate perennial ryegrass in May/August, and following an establishment year are assessed over the subsequent two years under an 8 cut system. White clovers are tested under a low fertiliser nitrogen input regime, where the total yearly application is 50kg Nitrogen per hectare (50kg N/ha) applied in the spring.

Heading date is based on the first heading date in spring. It is determined by examination of individual grass plants sown in the previous summer/autumn. It is carried out over a number of years at different sites. Heading date indicates the earliness or lateness of a variety in reaching maturity in spring. Dates listed should be used as a guide only as actual heading date will vary with location, climate and date of the last grazing.

Total yield for each variety is given as a percentage of control varieties indicated. In the tables, the mean relative yield for these control varieties does not always equate to 100, as historically not all control varieties were sown in each year from which data has been abstracted. The tables also show the average yields in tonnes dry matter per hectare (tDM/ha) for the control varieties. Annual yield tDM/ha can vary considerably between years and trial sites, due mainly to differences in

soil quality and climatic conditions. Where grass is commercially grown on lower quality land, considerably lower annual yields can be expected.

Ground Cover Score indicates the degree of ground cover or *sward density* at the end of the second harvest year, and is based on a visual assessment. A low figure indicates a very open sward, which may be prone to poaching or trafficability problems. However, since most varieties are sown as a mixture, the degree that this will influence the longevity of the sward can be minimised by including varieties with high ground cover scores.

Spring growth production figures are given for all ryegrass varieties. These figures are important indicators of early grass production and are expressed as a percentage of the control yields over the same period. Spring growth data is based on the yield of the first cut, which is taken in early April.

Autumn growth figures indicate production differences between varieties in autumn. They are expressed as a percentage of the control yields over the same period. Autumn growth data is based on the combined yield of the last two cuts, which measure growth from mid-August to late October.

Grass Quality

Two measures of grass quality are presented: Dry Matter Digestibility (DMD), and Water Soluble Carbohydrate content (WSC). Results are based on testing of plot samples from all 6 cuts per year at one trial site. Forage will provide more energy to the animal if its DMD is high. High DMD forage increases the DM intake of animals where feeding is not restricted. This increase in intake has a big effect on animal performance. Actual DMD levels can vary considerably and are influenced by several factors including growth stage and climate. The relative DMD values for individual varieties are presented in the Tables. Small differences in these values are considered relevant. The Water Soluble Carbohydrate content of grass is a measure of its 'sugar content'. Actual WSC levels vary widely, and are greatly influenced by the intensity and duration of sunlight in the preceding hours and days. The relative WSC values for individual varieties are presented in the Tables. Higher WSC levels are considered beneficial to animal performance. Large differences in the WSC values presented are considered relevant.

DAFM acknowledge the assistance of Teagasc, Grange, in carrying out laboratory analysis of grass samples for quality determinations.

Summary of All Recommended List Varieties 2012

Perennial	
AberChoice	Late
AberCraigs (T)	Late
AberStar	Intermediate
AberMagic	Intermediate
Cancan	Late
Carraig (T)	Intermediate
Delphin (T)	Late
Denver	Late
Dunluce (T)	Intermediate
Drumbo	Late
Edda (T)	Intermediate
Genesis	Early
Giant (T)	Intermediate
Glencar (T)	Late
Glenveagh	Late
Kintyre (T)	Late
Lismore (T)	Intermediate
Magician (T)	Intermediate
Majestic	Late
Malambo	Late
Malone	Intermediate
Mezquita	Late
Moyola	Early
Navan (T)	Late
Orion (T)	Late
Piccadilly	Late
Portstewart	Late
Premium	Intermediate
Shandon	Intermediate
Solomon	Intermediate
Soriento	Late
Stefani	Late
Trend (T)	Intermediate
Twymax (T)	Late
Twystar	Late
Tyrella	Late

Italian ryegrass
Davinci
Fabio (T)
Nabucco (T)

Hybrid
AberEve (T)
Alliance (T)
Ligunda
Pirol

White clover

AberHerald
Alice
Aran
Avoca
Barblanca
Chieftain
Crusader

In the above tables, varieties are listed in alphabetical order. In all subsequent tables, grass varieties are listed in order of heading date and ploidy, with those heading earliest at the top of the list and those with the latest heading date at the bottom. White clover varieties are shown in order of decreasing leaf size.

RECOMMENDED EARLY and INTERMEDIATE PERENNIAL RYEGRASS 2012

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Autumn Growth	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Early PRG Control Mean t DM/ha				14.8	6.0	1.3	3.1	80.4	18.4			
Moyola	Early	D	11-May	105	6.4	109	107	100.0	102	2012	AFBI	NI
Genesis	Early	D	13-May	103	6.7	118	102	99.7	103	2012	Teagasc	IRL
Inter PRG Control Mean t DM/ha				15.1	6.7	1.1	3.1	81.5	18.7			
Shandon	Inter	D	21-May	97	6.9	98	96	98.8	97	2005	Teagasc	IRL
Solomon	Inter	D	22-May	101	7.0	119	103	99.8	96	2011	Teagasc	IRL
Premium	Inter	D	23-May	97	7.1	90	99	99.7	97	1997	Innoseeds	NL
AberStar	Inter	D	29-May	99	7.0	90	107	101.1	105	2008	IBERS	UK
AberMagic	Inter	D	01-Jun	101	7.2	91	116	102.1	125	2010	IBERS	UK
Giant (T)	Inter	T	19-May	102	7.0	111	102	100.3	106	2011	Teagasc	IRL
Malone (T)	Inter	T	19-May	104	6.2	109	106	100.9	110	2009	AFBI	NI
Magician (T)	Inter	T	21-May	102	6.5	109	102	100.8	102	1999	Teagasc	IRL
Trend (T)	Inter	T	23-May	104	6.3	102	103	101.0	104	2007	NPZ	DE
Carraig (T)	Inter	T	24-May	103	7.0	114	105	101.1	108	2012	Teagasc	IRL
Edda (T)	Inter	T	25-May	101	6.0	99	101	101.1	103	2003	NPZ	DE
Lismore (T)	Inter	T	25-May	98	6.4	87	97	100.5	100	2006	Euro Grass	DE
Dunluce (T)	Inter	T	29-May	104	6.4	99	110	102.8	118	2007	AFBI	NI

Early PRG: variety descriptions Page 11; Control varieties Page 16.
 Intermediate PRG: variety descriptions Page 11 and 12; Control varieties Page 16.

RECOMMENDED LATE PERENNIAL RYEGRASS 2012

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Autumn Growth	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Late PRG Control Mean t DM/ha				14.6	6.78	1.0	3.1	82.1	18.5			
Stefani	Late	D	31-May	99	7.1	96	100	99.9	98	2012	DLF	DK
Majestic	Late	D	01-Jun	99	7.1	98	105	98.9	93	2012	Teagasc	IRL
Denver	Late	D	02-Jun	98	7.2	86	98	99.6	91	2003	Advanta	NL
Glenveagh	Late	D	02-Jun	100	7.7	83	103	99.7	102	2012	Teagasc	IRL
Piccadilly	Late	D	02-Jun	101	7.2	94	101	98.9	93	2012	Euro Grass	DE
Soriento	Late	D	02-Jun	97	7.4	84	97	99.7	95	2005	Euro Grass	DE
Tyrella	Late	D	03-Jun	97	6.9	121	99	100.2	106	2008	AFBI	NI
Portstewart	Late	D	04-Jun	98	7.0	84	102	100.3	103	1994	AFBI	NI
Mezquita	Late	D	06-Jun	97	7.6	92	99	99.3	94	2008	Euro Grass	DE
Drumbo	Late	D	07-Jun	99	7.0	101	105	101.0	112	2011	AFBI	NI
Twystar	Late	D	08-Jun	97	7.4	92	102	99.3	100	1998	CPB Twyford	UK
AberChoice	Late	D	09-Jun	102	7.1	92	107	102.0	128	2012	IBERS	UK
Malambo	Late	D	09-Jun	99	7.1	87	105	99.1	95	2010	Euro Grass	DE
Cancan	Late	D	10-Jun	97	7.3	78	107	99.9	106	2000	Limagrain	F
Orion (T)	Late	T	31-May	100	6.5	84	99	101.4	112	2002	NPZ	DE
Delphin (T)	Late	T	01-Jun	104	6.3	104	104	100.9	106	2002	NPZ	DE
Glencar (T)	Late	T	01-Jun	102	6.3	102	101	100.0	101	2005	Teagasc	IRL
AberCraigs (T)	Late	T	05-Jun	102	6.4	99	102	101.0	110	1999	IBERS	UK
Navan (T)	Late	T	05-Jun	103	6.5	86	113	101.0	112	1999	AFBI	NI
Kintyre (T)	Late	T	06-Jun	105	6.4	99	113	101.4	110	2012	Teagasc	IRL
Twymax (T)	Late	T	06-Jun	102	6.7	84	102	101.2	113	2007	CPB Twyford	UK

Late PRG: variety descriptions Pages 12 to 14;

Control varieties Page 16.

RECOMMENDED ITALIAN and HYBRID RYEGRASS 2012

Variety Name	Group	Ploidy	Heading Date	Total Yield	Ground Cover 1-9	Spring Growth	Silage Yield	DMD %	WSC %	Year 1st Listed	Breeder	Origin
Italian Control Mean t DM/ha				17.3	5.2	1.4	9.4	78.2	19.2			
Fabio (T)	Italian	T	19-May	100	5.0	101	100	101.1	106	1998	Euro Grass	DE
Nabucco (T)	Italian	T	21-May	102	5.2	104	101	100.5	106	2007	Euro Grass	DE
Davinci	Italian	D	23-May	103	5.6	105	100	99.0	90	2011	ILVO	BE
Hybrid Control Mean t DM/ha				16.7	5.2	1.3	9.2	79.2	18.9			
Ligunda	Hybrid	D	20-May	105	5.4	122	103	97.7	104	2011	Euro Grass	DE
Alliance (T)	Hybrid	T	21-May	103	5.1	110	103	100.9	111	2011	Limagrain	NL
AberEve (T)	Hybrid	T	22-May	100	5.7	95	102	101.3	(114)	2008	IBERS	UK
Pirol	Hybrid	D	23-May	103	5.6	100	103	98.3	(96)	2009	Euro Grass	DE

Italian and Hybrid: variety descriptions Page 14;
() indicates provisional data.

Control varieties Page 16.

GRASS VARIETY DESCRIPTIONS: Introduction

The variety descriptions provided in this booklet are based on the information in the Tables. They are generally confined to pointing out cases where a variety's performance relative to other varieties in the same group is considerably superior or inferior regarding a particular characteristic. Superiority is indicated by terms such as 'very good' and 'excellent', while inferiority is indicated by terms such as 'moderate' and 'poor'. The descriptions are not intended to give an overview of the value of a variety as regards all of its characteristics. In reading the descriptions, it should be borne in mind that all the varieties on the recommended list are those that performed best in trials conducted by the Department of Agriculture, Food and the Marine in Ireland and for which commercial quantities of seed has been produced by the seed industry. The trials included large numbers of varieties put forward by breeders from many countries.

EARLY PERENNIAL RYEGRASS:

Moyola: A new variety with good annual yield and autumn growth.

Genesis: A new variety with excellent spring growth.

INTERMEDIATE PERENNIAL RYEGRASS: DIPLOIDS

Shandon: Its spring growth is good for the diploids. Autumn yield and dry matter digestibility are moderate.

Solomon: Total yield is very good. Spring growth is excellent.

Premium: Its ground cover score is good.

AberStar: Good autumn growth and dry matter digestibility.

AberMagic: Annual yield and autumn growth are very good. Ground cover and dry matter digestibility are very good. Its heading date is the latest in the group.

INTERMEDIATE PERENNIAL RYEGRASS: TETRAPLOIDS

- Giant:** Spring growth is very good. Ground cover is very good.
- Magician:** Spring growth is very good.
- Malone:** Its total yield is one of the best in the group. Spring yield is very good.
- Trend:** Its total yield is one of the best in the group.
- Carraig:** A new variety with good total yield and very good spring growth and ground cover.
- Edda:** Dry matter digestibility is good.
- Lismore:** Total yield is moderate. Spring growth is poor and autumn growth is moderate.
- Dunluce:** Its dry matter digestibility is exceptionally good. Its autumn growth is the best of the tetraploids. It is the latest heading tetraploid variety in the group.

LATE PERENNIAL RYEGRASS: DIPLOIDS

- Stefani:** A new variety with good annual and spring yield and good ground cover.
- Majestic:** A new variety with good annual, spring and autumn yield and good ground cover.
- Denver:** Ground cover is very good. Spring and autumn growth are moderate.
- Glenveagh:** A new variety with good annual yield and excellent ground cover. Spring growth is moderate.

Piccadilly:	A new variety with very good annual yield and good ground cover.
Soriento:	Ground cover is very good. Spring and autumn growth are moderate.
Tyrella:	Its spring growth is excellent and is much better than that of other varieties in the group.
Portstewart:	Well balanced production over the growing period. Spring growth is moderate.
Mezquita:	Its ground cover is excellent, being considerably better than that of other varieties.
Drumbo:	Spring growth is very good. Dry matter digestibility is good.
Twystar:	Very good ground cover. Good autumn growth.
AberChoice:	A new variety with very good annual yield and excellent dry matter digestibility.
Malambo:	Well balanced production over the growing period. Spring growth is moderate.
Cancan:	Ground cover is very good. Spring growth is poor. It is the latest heading variety.

LATE PERENNIAL RYEGRASS: TETRAPLOIDS

Orion:	Spring growth is moderate. Dry matter digestibility is very good. It is one of the earliest heading varieties in the group.
Delphin:	Total yield and spring growth are very good. Dry matter digestibility is very good.
Glencar:	Spring growth is very good.
AberCraigs:	Dry matter digestibility is very good. Spring Growth is good.
Navan:	Spring growth is moderate. Autumn growth and dry matter digestibility are very good.

Kintyre: A new variety with highest annual yield in the group. Good spring growth. Very good autumn growth and dry matter digestibility.

Twymax: Ground cover is highest of the tetraploids. Spring growth is moderate. Very good dry matter digestibility.

ITALIAN RYEGRASS:

Fabio (T): A tetraploid variety. Dry matter digestibility is very good.

Nabucco (T): A tetraploid variety with well balanced production over the growing period.

Davinci: Its annual yield and ground cover are the best of the Italian Group. Dry matter digestibility is moderate.

HYBRID RYEGRASS:

Ligunda: Its total yield and spring growth are the highest in the group. Dry matter digestibility is low.

Alliance (T): Ground cover is the poorest in the group. Spring growth is very good. Dry matter digestibility is very good.

AberEve (T): Ground cover is the best in the group. Spring growth is poor.

Pirol: Ground cover is second best in the group. Yield is well balanced over the growing period.

RECOMMENDED WHITE CLOVER VARIETIES 2012

Variety Name	Total Yield	Leaf Size*	Av Clover %	Year 1st Listed	Breeder	Origin
Control Mean t DM/ha	9.1					
Aran	98	VL (1.00)	44	1983	Teagasc	IRL
Barblanca	103	L (0.80)	50	2009	Barenbrug	NL
Alice	103	L (0.75)	48	1995	Barenbrug	NL
Chieftain	102	M (0.66)	41	2005	Teagasc	IRL
Avoca	102	M (0.58)	46	1995	Teagasc	IRL
AberHerald	97	M (0.56)	43	2003	IBERS	UK
Crusader	94	M (0.53)	43	2009	Barenbrug	NL

* Leaf Size: **V**ery **L**arge, **L**arge, and **M**edium. Value in brackets indicate leaf size compared to the variety Aran (i.e. Aran = 1.00), based on data from UK D.U.S. tests.

Control varieties are shown on Appendix 1, page 16.

WHITE CLOVER VARIETY DESCRIPTIONS

Aran: The largest leaved variety on the list. Considered suitable for silage production and unsuitable for hard grazing.

Barblanca: A large leaved variety. It is one of the two highest yielding varieties. Considered suitable for silage production and unsuitable for hard grazing.

Alice: A large leaved variety. It is one of the two highest yielding varieties. Considered suitable for silage production and unsuitable for hard grazing.

Chieftain: A medium leaved variety with good yield. It is suitable for grazing.

Avoca: A medium leaved variety with good yield. It is suitable for grazing.

AberHerald: A medium leaved variety. It is suitable for grazing.

Crusader: The smallest of the medium leaved varieties. It is very suitable for close grazing.

Appendix 1: Control varieties

	EARLY PRG* Control Varieties
Trial sown 2006	Anaconda (T) and January.
Trial sown 2008	Anaconda (T) and January.

	INTER. PRG* Control Varieties
Trial sown 2007	Premium, Shandon, Spelga Magician (T), Malone (T), Trend (T)
Trial sown 2008	Premium, Shandon, Cashel Magician (T), Malone (T), Trend (T)

	LATE PRG* Control Varieties
Trial sown 2007	Denver, Mezquita, Tyrella AberCraigs (T), Delphin (T), Glencar (T)
Trial sown 2008	Denver, Mezquita, Tyrella AberCraigs (T), Delphin (T), Glencar (T)

	ITALIAN Control Varieties
Trial sown 2005	Fabio (T), Ligrande
Trial sown 2007	AberEpic, Fabio (T), Nabucco (T)

	HYBRID Control Varieties
Trial sown 2005	Foyle (T), Ligunda, Pirol
Trial sown 2007	Alliance (T), Ligunda, Motivel (T)

	WHITE CLOVER Control Varieties
Trial sown 2004	AberHerald, Alice, Aran, Avoca
Trial sown 2006	AberHerald, Alice, Aran, Avoca

* 'PRG' is used to indicate 'Perennial Ryegrass'.

DEPARTMENT OF AGRICULTURE, FOOD and the MARINE

RECOMMENDED LISTS

Cereal Varieties

Grass and Clover

Forage Maize

Winter Oilseed Rape

CROP SCHEMES AND SERVICES

Seed Certification

Seed Testing

The use of certified seed ensures a high level of varietal purity and germination.